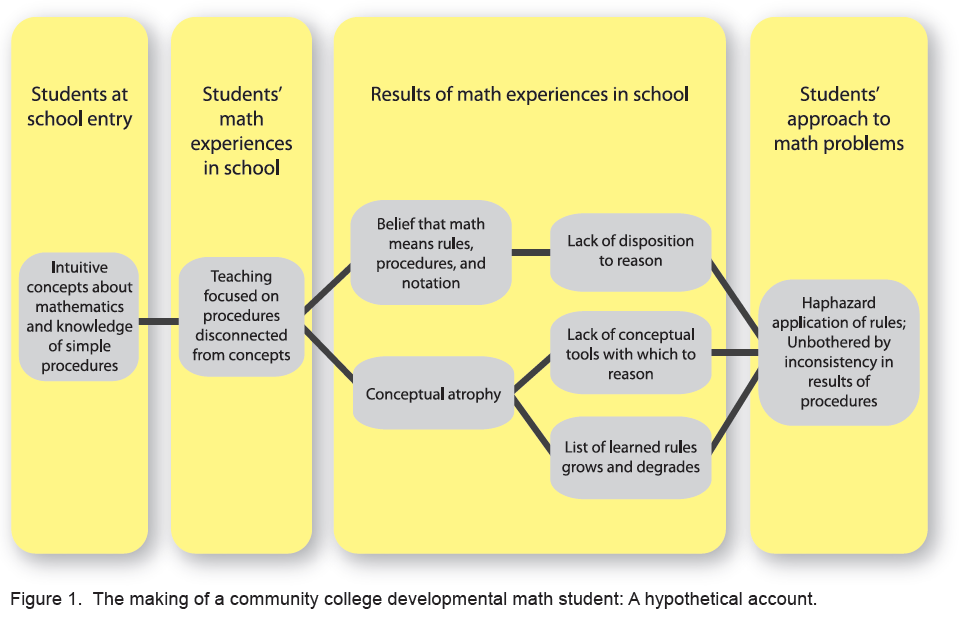
“**What Community College Developmental Mathematics Students Understand about Mathematics, Part 2: The Interviews,”** James W. Stigler, Karen B. Givvin, and Belinda J. Thompson, MathAMATYC Educator, Vol. 2, No. 3, May 2011; available for download: <http://www.carnegiefoundation.org/statway/statway-resources> (brief excerpts below)



“’Conceptual atrophy’ is a phrase we coined [referring to what has happened] to developmental mathematics students as a result of their many years’ experience of school mathematics…The math instruction students encounter frequently fails to capitalize upon students’ intuitive ideas and instead emphasizes steps disconnected from meaning…

…No matter what kind of mathematical question we asked, students tended to respond with computational procedures, which they often applied inappropriately and incorrectly. Their knowledge of mathematical concepts appeared to be fragile and weakly connected to their knowledge of procedures…”

“…The goal of much of developmental math education appears to be to get students to try harder to remember the rules, procedures, and notations they’ve repeatedly been taught. We are thinking about a different solution…with three elements” [summarized/paraphrased below]:

1. Find ways to “reawaken students’ natural disposition to figure things out” and help them see this process as critical to what it means to “do mathematics”
2. Provide students with productive things to think about…around the most powerful and critical mathematical concepts
3. Reintroduce procedures into the curriculum “once students begin to appreciate the value of figuring things out” with a “foundation of powerful concepts”

Framing questions for the retreat discussion:

* 1. **What do you think of the developmental “story” the authors present as a hypothetical explanation for the “conceptual atrophy” they describe regarding the mathematical reasoning of developmental students in mathematics?**
  2. **How would you assess the “remedy” the authors propose in terms of its strengths and challenges, and how, if at all, do you see any of it connected to your college’s current work around developmental mathematics?**